

U.S. Patent Application No.: 10/062,112

Art Unit: 1714

Page 2

AMENDMENT TO THE CLAIMS

1. (currently amended) An ink composition comprising a) a liquid vehicle, b) at least one modified pigment comprising a pigment having attached at least one functional group, c) at least one salt having a polyvalent ion, and d) at least one polymer comprising at least one functional group, wherein said functional group of the modified pigment and of the polymer ~~is~~ are capable of coordinating with said polyvalent ion and ~~is~~ are anionic, ~~and~~ wherein the salt comprises a polyvalent metal cation, and wherein the ink composition is an inkjet ink composition.
2. (original) The ink composition of claim 1, wherein the vehicle is an aqueous vehicle.
3. (original) The ink composition of claim 1, wherein the vehicle is a non-aqueous vehicle.
4. (cancelled)
5. (previously presented) The ink composition of claim 1, wherein the functional group of the modified pigment comprises at least one organic group.
6. (original) The ink composition of claim 5, wherein the organic group comprises at least one ionic group, at least one ionizable group, or a mixture of at least one ionic group and at least one ionizable group.
7. (previously presented) The ink composition of claim 5, wherein the organic group comprises at least one carboxylate group or sulfonate group.

U.S. Patent Application No.: 10/062,112

Art Unit: 1714

Page 3

8. (previously presented) The ink composition of claim 1, wherein the functional group of the modified pigment comprises at least one ionic group, at least one ionizable group, or a mixture of at least one ionic group and at least one ionizable group.

9. (previously presented) The ink composition of claim 1, wherein the functional group of the modified pigment comprises at least one carboxylate group or sulfonate group.

10. (cancelled)

11. (original) The ink composition of claim 1, wherein the pigment is carbon black, graphite, vitreous carbon, finely-divided carbon, activated carbon, activated charcoal, or mixtures thereof.

12. (original) The ink composition of claim 11, wherein the pigment is carbon black.

13. (previously presented) The ink composition of claim 1, wherein the pigment is a white pigment, a black pigment, a blue pigment, a brown pigment, a cyan pigment, a green pigment, a violet pigment, a magenta pigment, a red pigment, a yellow pigment, combinations thereof, or a pigment having a white shade, a black shade, a blue shade, a brown shade, a cyan shade, a green shade, a violet shade, a magenta shade, a red shade, or a yellow shade.

14. (cancelled)

15. (currently amended) The ink composition of claim 1, wherein the polyvalent metal cation is a divalent metal cation.

16. (currently amended) The ink composition of claim 1, wherein the polyvalent metal cation is a calcium, cadmium, copper, iron, magnesium, nickel, zinc, aluminum, or zirconium

U.S. Patent Application No.: 10/062,112

Art Unit: 1714

Page 4

cation.

17. (currently amended) The ink composition of claim ~~14~~ 1, wherein the polyvalent metal cation is selected from the group consisting of: Ca^{+2} , Cd^{+2} , Cu^{+2} , Fe^{+2} , Mg^{+2} , Ni^{+2} , Zn^{+2} , Al^{+3} , Fe^{+3} , and Zr^{+4} .

18. (original) The ink composition of claim 1, wherein the polyvalent ion of the salt is Zn^{+2} or Zr^{+4} .

19. (original) The ink composition of claim 1, wherein the polyvalent ion of the salt is Zn^{+2} .

20-21. (cancelled)

22. (previously presented) The ink composition of claim 1, wherein the functional group of the polymer comprises at least one ionic group, at least one ionizable group, or a mixture of at least one ionic group and at least one ionizable group.

23. (previously presented) The ink composition of claim 1, wherein the functional group of the polymer comprises at least one carboxylate group or sulfonate group.

24. (previously presented) The ink composition of claim 1, wherein the polymer is selected from the group consisting of: polyacrylic acid, polymethacrylic acid, copolymers of acrylic acid, copolymers of methacrylic acid, copolymers of maleic acid, and salts thereof.

25. (original) The ink composition of claim 1, wherein the polymer is a styrene-acrylate polymer or a styrene-maleic acid polymer.

U.S. Patent Application No.: 10/062,112
Art Unit: 1714
Page 5

26. (cancelled)

27. (currently amended) A method of generating an image comprising the steps of: 1) incorporating into a printing apparatus an ink composition comprising a liquid vehicle, at least one modified pigment comprising a pigment having attached at least one functional group, at least one salt with a polyvalent ion, and at least one polymer comprising at least one functional group, and 2) generating an image on a substrate, wherein said functional group of the modified pigment and of the polymer ~~is~~ are capable of coordinating with said polyvalent ion and ~~is~~ are anionic, ~~and~~ wherein the salt comprises a polyvalent metal cation, and wherein said method is an inkjet ink printing method.

28. (original) The method of claim 27, wherein the liquid vehicle is an aqueous vehicle.

29. (original) The method of claim 27, wherein the liquid vehicle is a non-aqueous vehicle.

30-32. (cancelled)

33. (currently amended) ~~The ink composition of claim 31,~~ An ink composition comprising a) a liquid vehicle, b) at least one modified pigment comprising a pigment having attached at least one functional group, c) at least one salt having a polyvalent ion, and d) at least one polymer comprising at least one functional group, wherein said functional group of the modified pigment and of the polymer is capable of coordinating with said polyvalent ion and is cationic and wherein the salt comprises a polyvalent anion, wherein the vehicle is a non-aqueous vehicle.

34-48. (cancelled)

49. (currently amended) ~~The method of claim 47,~~ A method of generating an image

U.S. Patent Application No.: 10/062,112

Art Unit: 1714

Page 6

comprising the steps of: 1) incorporating into a printing apparatus an ink composition comprising a liquid vehicle, at least one modified pigment comprising a pigment having attached at least one functional group, at least one salt with a polyvalent ion, and at least one polymer comprising at least one functional group, and 2) generating an image on a substrate, wherein said functional group of the modified pigment and of the polymer is capable of coordinating with said polyvalent ion and is cationic and wherein the salt comprises a polyvalent anion, wherein the liquid vehicle is a non-aqueous vehicle.

50. (cancelled)